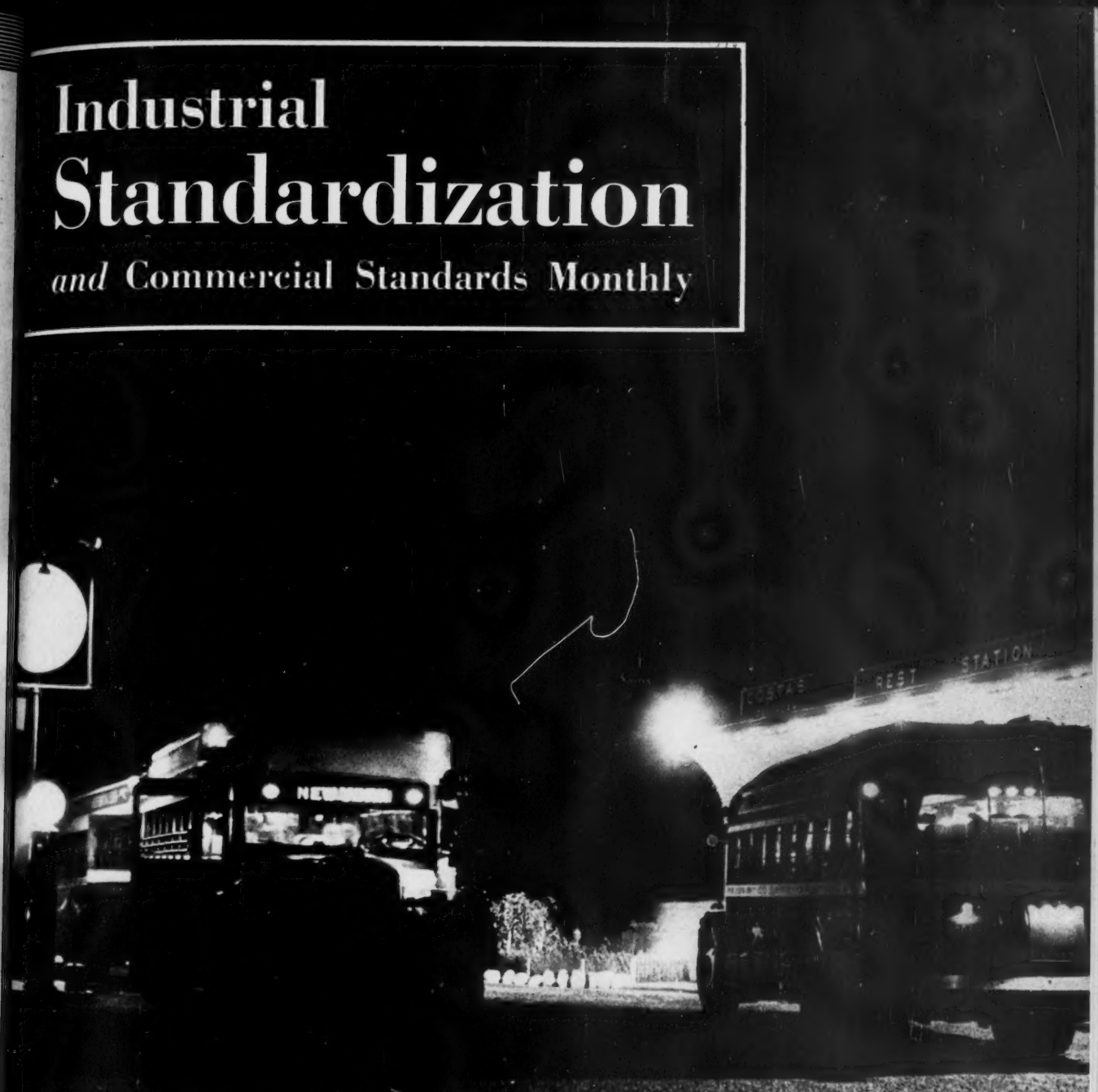
Industrial Standardization

and Commercial Standards Monthly



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ASA

AMERICAN STANDARDS ASSOCIATION

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Am. Home Economics Assn.
Am. Institute of Bolt, Nut & Rivet Mfrs.
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American Transit Association Requests Standard Specifications for Gasoline

Would Save Fleet Owners Thousands of Dollars a Year, Says ATA

Draft Standard May Be Ready This Summer

HOW do you know that the gasoline you buy on one day will give the same results as that you bought the day before? That is a question which costs the large truck fleet owners and motor bus operators thousands of dollars yearly. And that is the question which the new project on standard purchasing specifications for gasoline, just started under the procedure of the American Standards Association, with the American Society for Testing Materials directing the work, is expected to solve.

Specifications for gasoline for heavy-duty vehicles, with particular reference to various climatic and operating conditions, were requested by the American Transit Association, whose members alone buy approximately 30,000,000 gallons of gasoline annually, amounting to nearly $10,000,000 a year. This tremendous purchase of gasoline is done by the 10,000 common carrier busses in urban, inter-city, and interstate service operated by members of the ATA. There are, in addition, approximately 35,000 other common carrier busses in operation in the United States, not to mention trucks, the owners of which have an equal interest in this proposal.

The particular problem of the bus and truck operators, the American Transit Association points out, lies in the difficulty of buying gasoline of consistent operating characteristics.

When they buy a standard run they find that there is no real uniformity in the characteristics

Tests showing how gasoline reacts under certain conditions will play an important part in the preparation of these specifications. This test shows how gasoline responds to the starter in sub-zero weather.

Courtesy The Texaco Star

of gasoline marketed by the various producers or even in the gasoline of a single producer.

If, on the other hand, a bus or truck company attempts to protect itself by setting up its own specifications, it may find that these vary from the regular production of the gasoline company to such an extent that it may be necessary for the producer to put through a special distillation and perhaps arrange for special storage until shipment can be made. This naturally results in delays and increased cost.

Cross-Country Trips Raise Problems

Bus and truck operators engaged in long distance service are compelled to purchase much of their gasoline from service stations along the way, which makes the problem of securing gasoline of uniform characteristics even more acute than in the local market.

From this point of view, standard gasoline specifications would also have a definite interest for the driver of pleasure vehicles as well as for the fleet operator. The difficulty of preparing a separate group of specifications for pleasure cars and for heavy-duty motor vehicles and also the problems involved in marketing special gasolines for these two purposes will have to be given careful consideration by the committee preparing these specifications. The solution may be the development of a single group of specifications for gasoline that will be satisfactory for use in all classes of motor vehicles.

"In view of these facts," the American Transit Association writes, "the American Transit Association respectfully requests the American Stand-

Reorganized Committee Coordinates ASA Work on Petroleum Products

The Sectional Committee on Petroleum Products and Lubricants (Z11), recently re-organized to co-ordinate the work of all committees on petroleum products under the procedure of the American Standards Association, includes representatives of automobile manufacturers, gear manufacturers, mechanical and mining engineers, railroad engineers, and others interested in the use of gasoline and oil as well as representatives of gasoline companies and technical men. The American Society for Testing Materials, which for many years has led in the development of standards for petroleum products and lubricants, is in charge of the technical leadership of this committee.

Members of the committee are:

American Automobile Association, *T. E. Allen*
American Gas Assn., *C. A. Lunn*
American Gear Mfrs. Assn., *C. B. Hamilton, J. H. Flagg (alt.)*
American Institute of Mining and Metallurgical Engrs., *K. G. Mackenzie, G. H. Taber, Jr.*
American Iron and Steel Institute, *John Hulst*
American Oil Burner Assn., *H. F. Tapp*
American Petroleum Institute, *R. P. Anderson, B. R. Carney, K. G. Mackenzie, J. B. Rather, T. H. Rogers, J. B. Terry*
American Society of Mechanical Engineers, *G. B. Karelitz, W. F. Parish, H. J. Masson (alt.), S. J. Needs (alt.)*
American Society for Testing Materials, *T. A. Boyd, T. G. Delbridge*
American Transit Association, *E. J. Fraser*
Assn. of American Railroads (Engineering Division), *William Elmer*
Automobile Mfrs. Assn., *J. B. Macauley*
Compressed Air Institute and Hydraulic Institute, *Byron Godshall*
Diesel Engine Mfrs. Assn., *M. J. Reed*
Electric Light and Power Group, *Harold Farmer, J. O'R. Coleman*
National Assn. of Lubricating Grease Mfrs., *M. B. Chittick*
National Assn. of Purchasing Agents, *F. G. Space*
National Bureau of Standards, *H. C. Dickinson*
National Electrical Mfrs. Assn., *M. H. Steinmetz, J. G. Ford, G. W. Zabel (alt.)*
National Fire Protection Assn., *A. H. Nuckolls, N. J. Thompson, A. R. Small (alt.)*
National Petroleum Assn., *MacLean Houston*
Natural Gasoline Assn. of America, *W. F. Lowe*
Society of Automotive Engineers, *A. L. Beall, A. W. Pope*
ASA Telephone Group, *L. I. Shaw, T. C. Smith (alt.)*
U. S. Bureau of Mines, *A. J. Kraemer*
U. S. Navy Department, *Officer-in-Charge, Design Division, Specification Section, Bureau of Engineering*
U. S. War Department, *T. W. Smith*
Western Petroleum Refiners Assn., *D. G. Proudfoot*

The personnel of this committee as listed above has been approved by the American Standards Association with the understanding that invitations will be extended to the following organizations:

American Trucking Associations, Inc.
Motor Truck Association of America
National Association of Motor Bus Operators
National Association of Taxicab Owners

Courtesy of the Esso Marketers

This aerial view of the Bayway Refinery of the Colonial Beacon Oil Company gives an idea of the complicated processes through which crude oil must pass before it is ready for use in the nation's automobiles. Specifications and tests keep the refining process within close tolerances of accuracy.

ards Association to take the necessary steps leading to the initiation of a project on the development of one or more standard purchasing specifications for gasoline, particularly for use in heavy-duty vehicles under various climatic and operating conditions so that the consumers of gasoline in large quantities may be enabled to purchase gasoline from any producer with assurance that the fuel furnished will be reasonably consistent in quality and operating characteristics. It is our belief that the development of such a specification will be of mutual benefit to both the consumer and the producer of gasoline."

Committee Develops Standards

The preparation of the gasoline specifications requested by the ATA has been assigned to the Sectional Committee on Petroleum Products and Lubricants (Z11) with the American Society for Testing Materials as sponsor. This committee is a reorganization of former committees under ASA procedure which covered nomenclature and methods of testing petroleum products, and specifications for fuel oil. The reorganization resulted from the growing belief that specifications as well as methods of test should be handled by a single body, completely representative of all groups interested in petroleum products, rather than by separate committees, some of which dealt with methods of testing and others with specifications.

T. A. Boyd, head of the Fuel Section, Research Division, General Motors Corporation, is temporary chairman of the committee, and R. E. Hess of the American Society for Testing Materials is serving as secretary. The full membership of the committee is given on page 132.

For many years the A.S.T.M. has taken the leadership in the development of standards relating to petroleum products and lubricants. Through the Society's Committee D-2, which until recently functioned also as a sectional committee under ASA procedure, about 40 standard methods of test have been adopted. The development of

specifications for gasoline, lubricants, and fuel oils is also being studied. Tentative specifications for fuel oil and Diesel fuel oil have already been published.

A draft of specifications for gasoline is expected to be ready for distribution for public criticism this summer as a first step toward creating an American Standard.

Engineers Request Forum On Standards Problems

Nine engineers in charge of standardization work in individual companies met on May 14 in New York under the auspices of the American Standards Association to discuss the desirability of organizing a permanent forum where they might discuss informally any problems arising in connection with their work.

Some of these problems, it was suggested, would be concerned with organization of a standards department in a company; coordination of the several departments of an industrial concern in connection with standardization work; the extent to which existing standards, and particularly American Standards, can be used; and the extent to which a company must supplement these by standards developed for its own use.

The companies represented were:

Consolidated Edison Company of N. Y.
Pennsylvania Railroad
Eastman Kodak Company
American Telephone and Telegraph Company
Walworth Company
Westinghouse Electric and Manufacturing Company
RCA Manufacturing Company
General Electric Company
E. I. duPont de Nemours Company

Those present at the meeting unanimously agreed that the formation of a forum for discussing their standardization problems would be highly desirable and adopted the following resolution:

THAT a forum be organized among ASA Company-Members, for the informal discussion of matters concerning company standardization work;

THAT this forum serve primarily as a medium for the free exchange of information on company standardization work, at the discretion of those participating, such as the organization and evaluation of such work; the introduction of company standards into practice; and adaptation of American Standards to company usage; and

THAT suggestions for the establishment of new American Standards or the revision of existing ones which may develop from forum discussions should come before the ASA through existing regular channels, in accordance with ASA procedure.

The ASA Standards Council which met the next day, unanimously adopted a resolution to the effect that the minutes record consideration of a report from the secretary concerning a proposed Company Member Forum with notes of a meeting held on May 14; and it is the view of the Council that this promising movement is for the consideration of the Board of Directors.

It is expected that the Board of Directors will consider this matter at its next meeting.

British Draft Standard Methods For Testing Latex and Rubber

A draft standard for methods for the analysis and testing of latex and rubber is now being circulated by the British Standards Institution for comment.

The proposal includes sections on analysis and testing of latex, methods of chemical analysis of rubber, methods of testing soft vulcanized rubber, and methods of testing hard rubber.

The draft has been prepared by the B.S.I. at the request of the Research Association of British Rubber Manufacturers. The B.S.I. committee working on the standard adopted as a basis for the first section of its work the Methods for the Analysis and Testing of Latex and Rubber prepared and published by the Research Association of British Rubber Manufacturers. Methods published by other British, American, German, and Dutch standardizing authorities have also been considered.

Copies of the proposal may be obtained from the American Standards Association.

Gas Appliance Manufacturers Become ASA Member-Body

The Association of Gas Appliance and Equipment Manufacturers, an affiliate of the American Gas Association, is the latest organization to become a Group Member of the American Standards Association.

The Group Membership taken by the Association entitles the organization to a voice in the direction of ASA policies, and extends the services of ASA to each company member of the Association.

The question of membership was presented at a recent convention by their president, W. T. Rasch, president of the American Gas Products Corporation, who pointed out the opportunity of service to the industry in the program of ASA, particularly in problems of building codes, and industrial safety and health codes, as well as in technical standards which have been valuable to manufacturers.

Standards Have Fundamental Role in Developing Motion Picture Industry

by

Sylvan Harris

Secretary, Sectional Committee on Motion Pictures and Editor, Journal of the Society of Motion Picture Engineers

Wide Variety of Subjects Affected Include Optics, Acoustics, Design, Transmission Engineering, Photographic Chemistry, Theater Operation and Exhibition, Photography

International Agreement on 16-mm Sound Film Shows Important Progress

FORMAL motion picture standardization began in July, 1916, with the organization of the Society of Motion Picture Engineers. The art of making and projecting motion pictures was then quite young in development. Although the groundwork for all the remarkable improvements that were to follow had already been laid, the progress of the art was accelerating to such an extent that had it been permitted to proceed uncontrolled, it is probable that much confusion would have arisen because of the diversity of practices, designs, and dimensions that began to come into use.

Early Standards Still in Force

The avowed purpose of forming the Society of Motion Picture Engineers, as stated in its articles of incorporation, was the "standardization of mechanisms and practices" employed in the motion picture art. The Society was formed by a group of ten or twelve men, headed by C. Francis Jenkins of Washington, who were vitally interested in the young, but promising, art. The initial meeting, and many of the subsequent meetings of the new Society, were devoted almost exclusively to attempts to standardize various items relating to cameras, film perforations, motion picture electrical devices, motion picture theater equipment, optics of the projector, and so forth. Some of the standards adopted at these early meetings are still in force today; and throughout the years following, quite a large group of standards were formulated at these meetings and adopted by the industry, which soon was beginning to grow rapidly in importance and scope.

Due to the fact that many of the earlier developments in the motion picture art originated in Europe, many of the standards so promulgated were acceptable both to European and American producers and equipment manufacturers, and, accordingly, it turned out that the standards proposed and adopted by the Society of Motion Picture Engineers became virtually international standards.

All this was in the field of the *silent* picture. With the advent of sound, many new influences came to bear upon the industry and a number of new standardizing agencies came into being. Other motion picture societies and organizations began to be formed, not only in America but abroad; and, considering also the greatly widened technical scope of the sound motion picture, a need soon arose for discovering a means of assuring a fair degree of compatibility among the many rules of practice and design advocated by these various organizations.

The first attempt was made in 1930, when the Society of Motion Picture Engineers submitted its standards to the American Standards Association for adoption as American Standards, under the proprietary sponsorship plan, and the entire set of SMPE standards was so published. These

It is important to recognize the fact that accord has been reached between the great English-speaking peoples of the world, including the United States, England, Canada, Australia, and so forth. . . .

Although it may be too early to hope that complete unanimity will eventually be achieved throughout the world, certainly an important step toward such international accord has been taken in the acceptance by Great Britain, Holland, and Denmark of the SMPE standards.—*Sylvan Harris.*

standards related almost exclusively, however, to professional motion pictures; that is, to 35-mm cellulose acetate film and equipment designed for handling such film. As was stated before, these standards had become, by 1928 to 1930, practically international standards by common adoption, and no serious point of departure had been encountered either among various groups within the United States or among various countries of the world.

About this time the development of non-theatrical equipment began to proceed by leaps and bounds; and when, within the next few years, sound began to be considered in connection with non-theatrical equipment, a number of points of serious difference soon were encountered. At the same time, the standardizing activities of other organizations within the United States, notably the Academy of Motion Picture Arts and Sciences, had assumed such importance that it became desirable to combine the several sets of standards adopted by these several organizations in order to form a representative group of standards of American practice and design.

Request Sectional Committee

Accordingly, at the suggestion of Dr. Alfred N. Goldsmith, then president of the SMPE, authorization was requested of the ASA in 1934 for the formation of a Sectional Committee on Motion Pictures to be organized according to the procedure of the ASA, with the Society of Motion Picture Engineers as sponsor. As is usually the case, the formation of this sectional committee proceeded slowly, but by March, 1935, the scope and personnel of the committee had been established and the first meeting was held.

The list of members of the sectional committee and the organizations that are represented, correct to the time of the present writing, is shown on the next page. The peculiar point of interest in connection with this list is the wide variety of scientific and engineering activities embraced by what is called, for want of a better name, "motion picture engineering": optics, acoustics, mechanical design, transmission engineering, photographic chemistry, laboratory and theater operation, physics, theater management and exhibition, photography, and so forth.

In order to facilitate the work of standardization, three technical subcommittees have been formed as follows:

Technical Subcommittee No. 1—Photographic, O. Sandvik (Eastman Kodak Co.), *Chairman*;
Technical Subcommittee No. 2—Optical, J. A. Dubray (Bell & Howell Co.), *Chairman*;
Technical Subcommittee No. 3—Acoustical, P. H. Evans (Vitaphone Corp.), *Chairman*.

As mentioned before, about this time non-theatrical sound motion picture equipment had begun to assume an important role nationally and internationally. By this time also, the Society of Motion Picture Engineers had formulated and adopted a number of dimensional standards relating to 16-mm sound-film and equipment which had become adopted nationally practically without dissent.

Germany Adopts Standards

There seemed, also, at the same time to be a sincere and intentional attempt on the part of various countries of Europe, notably Germany, to adopt these 16-mm standards of the SMPE, as evidenced by the fact that when the Deutscher Industrie Normen relating to 16-mm sound pictures were published, they appeared to be practically identical to the corresponding standards of the Society of Motion Picture Engineers. These DIN standards were first published in 1933 by the Deutscher Kinotechnische Gesellschift.

Several months elapsed, during which development in the various countries proceeded, when it was noted at an exposition at Paris, in which both American and European equipment was displayed, that German 16-mm sound projectors were designed so as to accommodate film having the sound-track upon the edge of the film opposite that prescribed in the SMPE standards.

Subsequent investigation and study revealed the fact that when transcribing the SMPE drawings, the Germans had inadvertently constructed mirror images of the drawings, so that the position of the sound-track with relation to the position of the emulsion coating of the film had become transposed. During the several months that had elapsed, commercial investments in equipment and film, employing the one standard in Europe and the other standard in America, had increased

very considerably, and, accordingly, there was great reluctance on the part of the proponents of the two systems to give up what they already had done with the one system and adopt the other system. The situation was rendered more acute by the fact that in England and France both systems were in use; so for the time, it was very important that those countries find a means of agreement within their own ranks, before trying to agree upon a standard that might eventually be called international.

Ask ISA to Act

In the meantime, recognizing the situation, the SMPE requested the ASA to place the matter before the International Standards Association, taking advantage of the fact that the International Congress for Applied and Scientific Photography was about to be held at that time at Paris (July, 1935). Previous conferences and meetings had been called for the purpose of discussing the subject and trying to arrive at some agreement, but these attempts were marked by practically complete failure and even discord.

At the Paris Congress, however, arrangements were made through Mr. A. Huber-Ruf, General Secretary of the International Standards Association, and with the kind permission and collaboration of the officials of the International Congress for Photography, to hold a joint meeting of the ISA and the International Congress in order to try to arrive at some solution of the difficulty.

Omitting the details of these meetings and descriptions of the enormous amount of work that was involved, including two trips to Paris and Berlin by the representatives of the American Sectional Committee, George Friedl, Jr., and J. W. McNair, the agreement was finally reached that the question should be submitted by referendum to the nineteen national standardizing bodies comprising the membership of the ISA. The Deutscher Normenausschuss was appointed Secretariat for the project, which is known as Committee 36 ISA—Photography and Cinematography.

Response Slow

Response to the referendum has been somewhat slow, because of the fact that at the time a number of countries of Europe were not prepared to submit definite answers to the questions raised, and in several of the countries it was necessary first to settle the question within their own borders before they could commit themselves internationally.

At first, practically no conclusions could be drawn from the answers to the referendum other than that America was completely agreed upon

Motion Picture Committee Unifies Standards Work

The Sectional Committee on Motion Pictures (Z22) brings together all organizations working on standards for the motion picture industry in a concerted standardization effort. An exceptionally wide range of interests is represented.

The Society of Motion Picture Engineers is technical director for the work of the committee.

Members of the committee are:

Dr. Alfred N. Goldsmith*, Society of Motion Picture Engineers, Inc., *Chairman

Sylvan Harris*, Society of Motion Picture Engineers, *Secretary

Academy of Motion Picture Arts and Sciences, *P. H. Evans, J. S. Mitchell, John M. Nickolaus*

Acoustical Society of America, *Franklin L. Hunt*

Agfa Ansco Corp., *Paul Arnold*

Akeley Camera Corp., *J. L. Spence, Jr.*

Amateur Cinema League, Inc., *F. G. Beach, R. G. Holslag (alt.)*

American National Committee for International Congresses of Photography, *Walter Clark*

American Society of Cinematographers, *George A. Mitchell, Jos. Ruttenberg (alt.)*

Bell & Howell Company, *J. A. DuBray*

Bell Telephone Laboratories, *W. A. MacNair*

duPont Film Manufacturing Corporation, *N. F. Oakley*

Eastman Kodak Company, *Lloyd A. Jones*

Electrical Research Products, Inc., *C. Flannagan*

Fire Protection Group, *A. R. Small, George W. Booth (alt.)*

Illuminating Engineering Society, *Ralph E. Farnham*

Independent Theatre Supply Dealers Assn., *J. E. Robin*

International Projector Corporation, *H. Griffin*

Mitchell Camera Company, *George H. Worral*

Motion Picture Producers and Distributors of America, *A. S. Dickinson, D. Palfreyman, Frederick L. Herron*

National Carbon Company, *D. B. Joy, E. A. Willifford (alt.)*

National Electrical Manufacturers Assn., *J. G. T. Gilmour*

Optical Society of America, *A. C. Hardy*

RCA Manufacturing Co., *M. C. Batsel*

Society of Motion Picture Engineers, *E. K. Carver, A. N. Goldsmith, H. G. Tasker*

Theatre Equipment Supply Manufacturers Assn., *Oscar F. Neu*

U. S. Department of Commerce, National Bureau of Standards, *E. W. Ely*

the SMPE standards and Germany upon the DIN. A little later Holland formally notified the DNA Secretariat that it also had adopted the SMPE standards. Several months later Great Britain took steps to decide the controversy within its own borders by appointing an arbitrator, in the person of Lord Riverdale, acting for the British Standards Institution, to conduct hearings on the subject and render a decision that would be most favorable to the interests of the Empire. This decision was given in March, 1936, in favor of the SMPE standards. Within the last month word has been received that Denmark also has approved the SMPE standard.

Accordingly, the general preferences of the various countries at the present moment are as follows: United States, Holland, Great Britain, Denmark: SMPE; Germany: DIN; Russia, Switzerland, Hungary: DIN, might follow SMPE if the majority of the countries so agree; Austria, France: preference divided; Czechoslovakia, Sweden, Italy, and Poland: uncertain.

It is important to recognize the fact that accord has been reached between the great English-speaking peoples of the world, including the United States, England, Canada, Australia, and so forth. It is also important to recognize the fact that a decision in favor of one or the other set of standards has meaning only so far as the particular countries have any appreciable commercial or industrial investments at stake. In some of the countries listed above as uncertain, development of 16-mm sound motion pictures and equipment has hardly begun, so that it will be an easy matter for those countries to accept whichever set of standards seems most agreeable to the world at large. Although the technical differences between the two standards may not be equivalent to the difference between right and wrong, it is felt by many and sincerely believed by American designers that the SMPE specifications provide advantages over DIN, particularly with respect to color processing and the new reversal process.

Although it may be too early to hope that complete unanimity will eventually be achieved throughout the world, certainly an important step toward such international accord has been taken in the acceptance by Great Britain, Holland, and Denmark of the SMPE standards. Decisions from the other countries are expected soon, and it is possible that further improvement in the situation might result from discussions that are to be held at Budapest in August under the auspices of the ISA.

A.S.T.M. Issues Symposium On Industrial Fuels

The Symposium on Industrial Fuels recently published by the American Society for Testing Materials comprises four extensive technical papers as follows:

Coal and Coke: Occurrence, Testing, and Utilization—A. C. Fieldner, Chief Engineer, Experiment Stations Division, U. S. Bureau of Mines, and W. A. Selvig, Supervising Chemist, Miscellaneous Analysis Section, Pittsburgh Experiment Station, U. S. Bureau of Mines.

Industrial Fuel Oils—H. V. Hume, Combustion Engineer, The Atlantic Refining Company.

Manufactured Gas—P. T. Dashiell, Vice-President, and F. H. Trembly, Jr., Assistant Sales Manager, The Philadelphia Gas Works Company.

Liquified Petroleum Gas—W. H. Bateman, President, Solgas, Inc.

In all of these papers, the important part played by standards, specifications, and methods of test in the utilization and marketing of industrial fuels is emphasized. Attention is called to American Standards and also to those adopted by the American Society for Testing Materials and the Natural Gasoline Association of America.

At the suggestion of the A.S.T.M. Philadelphia District Committee, which with representatives from the Engineers' Club planned the symposium, the authors followed a prescribed outline so that the papers have considerable comparative value. Among the subjects covered are the following: Historical background, magnitude of the industry, future availability of raw materials, possibility of new processes, tests which are applied to the materials, significance of tests, utilization of materials, general economic aspects of the product, and utilization.

Copies of the publication (70 pages) in heavy paper cover, may be obtained from the A.S.T.M., 260 S. Broad Street, at 75 cents each, or on orders for ten or more copies, at 60 cents each.

May Standardize Quality Of Automobile Parts

The National Standard Parts Association, Detroit, is developing a plan aimed at standardization of quality in automobile parts and incorporating the use of a mark of approval on merchandise which meets the specified standards.—*News Letter, Trade Association Department, Chamber of Commerce of the United States, March.*

Code for Fresh Air in Mines Proposed For ASA Approval

A recommendation which would insure an ample supply of fresh air for mine workers underground and would provide for the diluting and carrying away of any dangerous and noxious gases has been completed by the American Institute of Mining and Metallurgical Engineers following many years of research. The proposed code is offered by the A.I.M.E. to unify regulatory measures in coal-mine ventilation, so far as is practicable, in the United States. It is now before the American Standards Association for approval as American Recommended Practice.

The standard includes detailed technical provisions for ventilating mine workings, and methods for insuring adequate supply of fresh air. It provides for daily tests for gas and for checking the correct flow of air currents, and for the preparation and posting of maps showing location of curtains, doors, stoppings, regulators, and direction of the flow of air. Sections providing for the use of safety lamps and methods of using fans are also given. Definitions of mining terms used in the proposed code are included.

The committee of the Coal Division of the American Institute of Mining and Metallurgical Engineers which prepared the proposed code made use of codifications made by other groups, notably the American Mining Congress and the U. S. Bureau of Mines. Following several years of study, the Committee reported to the Coal Division in 1931 recommending the code. The proposal was widely circulated in printed form to coal-mine operators, mine inspectors, and others interested in ventilation of coal mines in order to get suggestions and criticisms. Following further consideration in view of the suggestions received, the Coal Division recommended to the A.I.M.E. Board of Directors that the code be endorsed and submitted to the ASA.

The proposed code which is now before the ASA for approval as American Recommended Practice is being considered by the Mining Standardization Correlating Committee. This general committee in charge of all mining standards under ASA procedure is a representative cross-section of all groups interested in mining problems. Members of the MSCC will determine and present the point of view of the organizations they represent in any recommendations to Standards Council regarding the approval of the standard.

J. H. Courtney Joins ASA Staff As Washington Representative

J. H. Courtney has joined the staff of the American Standards Association as liaison officer at the National Bureau of Standards, succeeding Harry Houghton, formerly ASA staff man at Washington.

Mr. Courtney has had six years' experience in Washington, part of that time with the Department of Commerce Building Code Committee.

He was graduated from Cornell University in 1917 with the degree of Civil Engineer. Following service in the army during the War, Mr. Courtney was employed by the Bethlehem Shipbuilding Corporation, and then by the George A. Fuller Company, where he became superintendent of construction. He spent eight years on building construction in different cities for George A. Fuller Company and Irwin and Leighton of Philadelphia.

In 1930 he joined the staff of the Department of Commerce Building Code Committee and served three years as engineer on the building code work.

When the code work was discontinued in 1933, Mr. Courtney was transferred to the Department of Agriculture as junior administrative officer with the Agricultural Adjustment Administration. In January, 1936, Mr. Courtney was tranferred to the Procurement Division of the Treasury Department, and served as secretary of the Design and Construction subcommittee of the Central Housing Committee until he joined the ASA staff.

Specifications on Electrodeposited Coatings Issued in One Document

The three new specifications on electrodeposited coatings of zinc, cadmium, nickel and chromium on steel, prepared by the American Electro-Platers' Society, the American Society for Testing Materials, and the National Bureau of Standards, have just been issued in one document.

Copies may be obtained from the American Electro-Platers' Society, 90 Maynard Street, Springfield, Mass., the American Society for Testing Materials, 260 S. Broad Street, Philadelphia, or through the American Standards Association office at 25 cents each.

Fire Follows Tornado—

Standard Hose Couplings Prevent Theatened Destruction

THE town of Gainesville, Georgia, was in danger of being totally destroyed by fire following the tornado in April of this year, had it not been for the use of an American Standard.

Since 1931, the seven neighboring communities which rushed fire apparatus to Gainesville have been equipped with American Standard Fire Hose Coupling Screw Threads. Their apparatus, therefore, connected without difficulty or delay to the Gainesville hydrants. If the tornado and fires had occurred in 1931 or before, the entire town of Gainesville might have been reduced to a heap of ashes.

The *Windstorm Report, April, 1936*, issued by the South-Eastern Underwriters Association, tells in detail the story of the destruction of Gainesville on April 6. Before the tornado and fires were over, 200 persons were dead and 800 injured. A path several blocks wide through the city, crossing the entire mercantile district, was in ruins, and the property loss was estimated to be between $8,000,000 and $10,000,000.

The tornado was terrifying and destructive in itself, but when fires broke out in five blocks in the devastated area, the city seemed doomed.

Debris Blocks Fire Station

The Gainesville fire apparatus could not be used, except to supply a single hose line in the immediate vicinity of the station, which had been demolished. Although the equipment itself was undamaged, the exit from the station was blocked by debris.

Calls for assistance were immediately sent out to neighboring towns and seven responded with fire apparatus—Buford, Athens, Atlanta, Cornelia, Dahlonega, Chicopee Mill, and Fulton County. By late afternoon, the fires were under control so that further spread was prevented. Without this assistance the fires would have raged unchecked until evening when the debris was finally cleared to allow the Gainesville fire apparatus to function.

"The fact that the threads on all hose and apparatus responding in the recent emergency conformed to the national standard permitted use of all apparatus and equipment without loss of time and proved to be an important factor in preventing a general conflagation," says the *Windstorm Report*.

The history of fire fighting is full of examples of conflagrations which have reached huge proportions because fire-fighting equipment, rushed to the aid from surrounding towns, has had to stand helplessly by, unable to give assistance.

One of the outstanding examples is that of Baltimore in 1904. At the time of the Baltimore fire, Philadelphia, Washington, and New York all rushed apparatus by train over tracks especially cleared for the purpose, only to find when they arrived that their hose would not fit the hydrants, and their efforts were useless.

It was the unnecessarily huge loss during this fire, following the same experience during the great Boston fire of 1872, which started general agitation for standard fire hose couplings. Since that time the need for standards has been confirmed through other such disasters—the Augusta fire of 1916, for example.

On the other hand, when Fall River, Mass., was threatened with total destruction by fire a few years ago, standardization had progressed to such an extent that 18 cities responded with 29 pieces

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[1]Member of the ASA Standards Council representing the Fire Protection Group.

A Disastrous Conflagration Menaced Gainesville, Ga., When Its Fire-Fighting Equipment Could Not Reach Fire-Swept Tornado Ruins

Neighbor Towns, Rushing Engines to the Rescue, Find Standard Hose-Couplings Make Quick Help Possible

by

George W. Booth[1]

National Board of Fire Underwriters

of apparatus, and only one was unable to connect readily to the hydrants or hose lines. Because of this effective cooperation, the fire, which had threatened to destroy the entire city, only damaged parts of six blocks.

The National (American) Standard for Fire-Hose Coupling Screw Threads, now widely adopted throughout the country, was prepared through the efforts of the National Board of Fire Underwriters, the American Water Works Association, and the American Society of Mechanical Engineers, under the auspices of the American Standards Association.

The present widespread adoption of the American Standard throughout the country is due in large measure to the active work of the National Board of Fire Underwriters. The Board has carried on an effective educational campaign, its en-

The devastated area of Gainesville, Ga., following the tornado, showing fires sweeping over the section

Times Wide-World photo

gineers and those from local associations cooperating with municipalities in the standardization of fire hose threads.

Since 1920, hose thread fittings in more than 5,200 cities and towns have been converted to standard, and the National Board of Fire Underwriters has been instrumental in organizing the state-wide campaign in 42 of the 48 states. As there are approximately 12,600 protected municipalities in the country, of which about 1,200 were originally standard, it is evident half the battle is won.

Manufacturers Change Hosiery Standards

New provisions have been included in the hosiery standards prepared by the National Association of Hosiery Manufacturers and the revised standards are now being circulated for approval. The changes have been made as the result of criticisms from those of the industry who did not approve the original standards.

The additions provide that a stocking which slightly exceeds 31 in. in length may be classified as of Commercial Standard length. (Commercial Standard for Hosiery Lengths CS46-33, see page 149), provided that the fabric of such stocking is satisfactory, and in every other respect of first quality, including the matching at the instep.

They also provide that when a stocking of a lower gauge is made on a higher gauge machine, the number of total courses may be equal to the courses used in making a stocking of Standard A construction of the lower gauge. However, if the gauge is stamped on the stocking it must be that of the lower gauge and not that of the machine upon which the stocking was made.

Provisions for changing the gauges of a stocking made on 13½ in. needle bars in order that such standards may be sold as Standard A are also included.

"The standards of construction are in substance minimum standards," says the announcement of the National Association of Hosiery Manufacturers. "They assure a minimum value of dimension and of other qualities. They shut out skimped goods. They protect the overwhelming rank and file of the industry against the few who offer goods of short measure. They carefully avoid any interference with design or style. On and above the standards, there will be varying degrees of additional values of different types offered by one manufacturer or another. The field for such enterprises is left free and open. We must also recognize that there will be some variations of value, between stockings of a given standard, manufactured by two different manufacturers."

It is expected that this standard may be offered for acceptance as a Commercial Standard under the procedure of the National Bureau of Standards after the industry has indicated its approval of it.

Government Departments Adopt Standard Threads for Tripods

A tripod thread having a nominal diameter of 3½ in. and eight threads per inch has been adopted by the War Department, the hydrographic office of the Navy Department, and the Geological Survey as standard for use with transits having horizontal limbs 4½ in. or more in diameter at the edge of graduation. It has also been adopted for all engineers' levels.

The object is complete interchangeability so that the base plate of any standard instrument will fit satisfactorily any tripod head, regardless of manufacture. Interchangeability can be obtained only by adequate dimensional specifications for the threads and use of an adequate gaging system in inspection.

Seven manufacturers of surveying instruments have authorized the National Bureau of Standards to state that they have accepted this as their standard thread, and six additional manufacturers have stated that they are supplying it on request.

The National Bureau of Standards has prepared a letter circular known as LC 463 to answer requests for detailed information in regard to the thread. This letter circular may be obtained without charge on application to the National Bureau of Standards, Washington, D. C.

British Propose Standards For Testing Raw Rubber

A proposed standard for methods of testing raw rubber has been prepared by the British Standards Institution at the request of the Research Association of British Rubber Manufacturers. Copies are now being circulated for comment and criticism.

The tests proposed are divided into three classes, chemical, physical, and vulcanization and ageing tests. They are based upon the methods employed by the official British research organizations (Ceylon and Malaya) and by their London Advisory Committee.

Copies are available from the American Standards Association.

How to Safeguard Paper-Making Hazards Is Shown in Newly Revised Safety Code

by
G. E. Burns[1]

Secretary, Sectional Committee
Safety Code for Paper and Pulp Mills

High Speed in Modern Plants Demands Fool-Proof Machinery; Revised Code Provides Safeguards for All Phases of Paper Making

American Standards Association Approves New Edition as American Tentative Standard

IN its present form the Safety Code for Paper and Pulp Mills is extremely simple and easy to interpret. No attempt has been made to include controversial points or to impose upon the industry any changes or conditions which have not already been made or put into effect in one or more mills.

To be sure, the code will never suit all nor will all of the code suit any. No single code can meet all ideas or individual experiences. We must, however, be fair with ourselves. The code is a recognition of the safe practices in the paper industry that have been found helpful to both employee and employer.

An apparently simple operation in paper making may cause difficulties. Lapped pulp is here shown properly piled on the skid to prevent tipping and falling.

Courtesy of International Paper Co.

Standard guarding, as outlined in various state and federal codes, is no longer mere guess work nor a mere pretext to give state inspectors or sentimental safety enthusiasts a job. Rather, standard guarding is a positive method of cutting production costs and eliminating accident hazards.

Our modern high-speed world of industry demands fool-proof working conditions as nearly as possible. A modern paper mill means taking a sheet of newsprint up to 25 feet wide through a series of press rolls, over dozens of dryers, through a more than 100-ton calender stack and onto a reel that never stops, at a speed that may exceed 1,000 feet per minute. It demands that chlorine gas, so well known to the soldiers of the World War, be handled in carload lots, often in the midst of a large city. Further, it demands the generation of steam in modern high-pressure boiler plants—steam at several hundred pounds pressure and so highly super-heated as to endanger ordinary pipe metal and set fire to exposed woodwork with a tiny invisible jet of leaking water vapor.

Such hazards as these are actual consequents of modern speed, efficiency, economy and pro-

[1]Safety Engineer, National Safety Council, Chicago.

gressive paper mill engineering. Paper must be made thus to keep up with the competitive march of other industries. Hence, we cannot remove the basic causes of these hazards but must safeguard them with the best obtainable engineering brains and practicable experience. Safeguarding such hazards must be accomplished by tried and proven methods, set forth in standard codes made available for all to read. Without such codes, which are simply up-to-date records of the results of practical past experience, each of us, when faced with hazards new to us as individuals, would be compelled to repeat experiments already tried by other mills. Doubtless we would eventually attain our objective, but in so doing we might be responsible for maiming—even killing—some of our fellow workers.

Safety Requirements Necessary

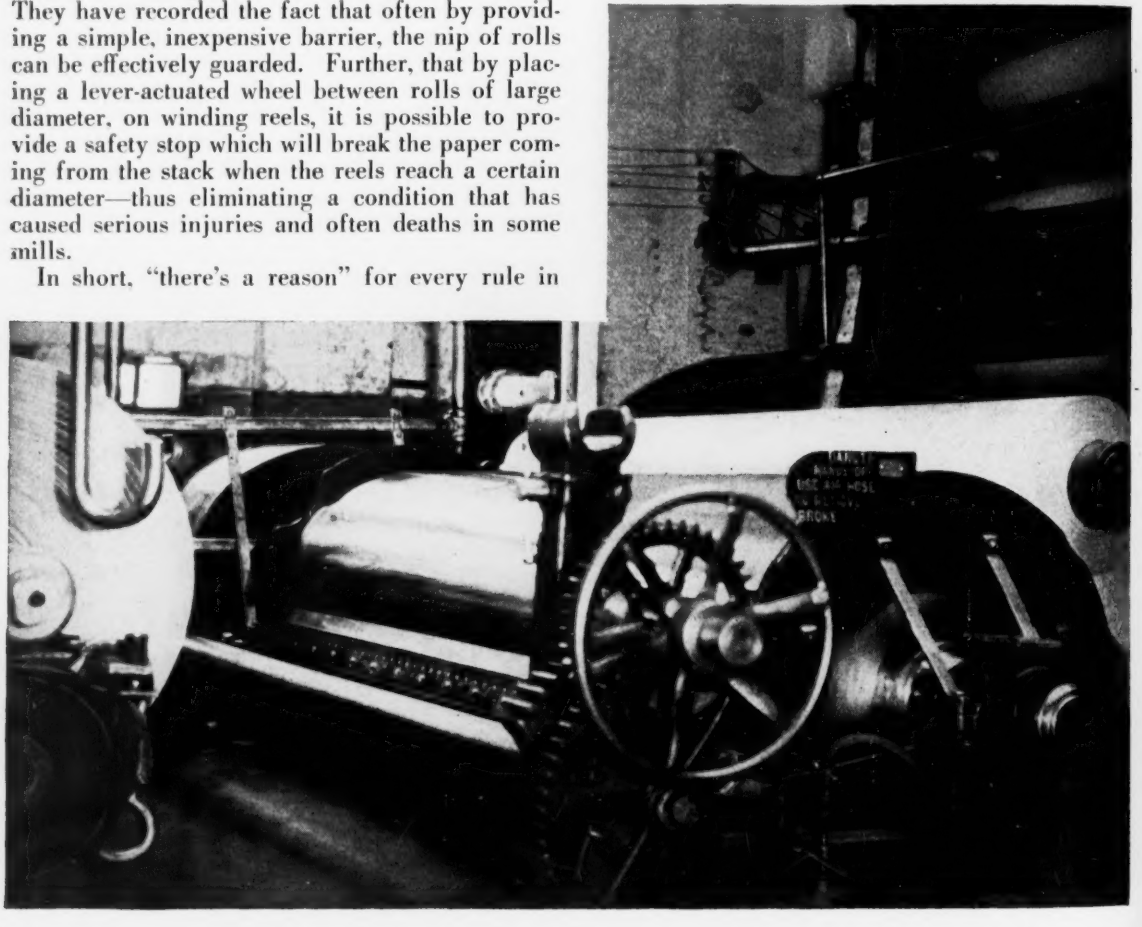
Hazards so great can no longer be dealt with in ways that are hap-hazard. Experienced industrial workers, executives, and safety men, who have faced this responsibility for human life, produced such codes. Such men have learned from experience that railings of a certain type and construction will protect elevated platforms, etc. They have recorded the fact that often by providing a simple, inexpensive barrier, the nip of rolls can be effectively guarded. Further, that by placing a lever-actuated wheel between rolls of large diameter, on winding reels, it is possible to provide a safety stop which will break the paper coming from the stack when the reels reach a certain diameter—thus eliminating a condition that has caused serious injuries and often deaths in some mills.

In short, "there's a reason" for every rule in the code. They are not arbitrary statements designed to arouse antagonism, but are commonsense analyses of typical danger points with practical ways of eliminating the hazards. So often code requirements are condemned without first analyzing the possible reason or reasons for their creation. Generally, a careful study will reveal that the safeguard suggested will mean not only added safety, but greater production and lower production costs.

Industries are becoming specialized and hazards are becoming specific and peculiar in their nature. Hand barkers whittle off the fingers of wood-room men only, so the code specializes in that it recommends mechanical means to feed and turn over the bolt or log. Chip bins are peculiar to pulp mills, so a special section dealing with the sulphite process recommends safety belts, with a hand line attached, to prevent the worker from

Shield guards and danger signs, at the ends of the reel, make this calendering machine safe for workers. A working platform in front of the calender stack is a further protection.

Courtesy International Paper Co.



Paper-Making Safety Code Prepared by Many Interests

Many organizations interested in various phases of the safety problem in paper making are represented on the Sectional Committee on Safety Code for Paper and Pulp Mills (P1) which prepared the new revision of this safety code. The work is carried on under the technical direction of the National Safety Council.

Members of the committee are:

J. J. Plzak*, National Safety Council, *Chairman

G. E. Burns*, National Safety Council, *Secretary

American Paper and Pulp Association, *Walter A. Gleason, F. H. Rosebush*
American Paper & Pulp Mill Superintendent's Association, *Grover Keith*
American Society of Mechanical Engineers, *Laurence R. Weldon*
American Society of Safety Engineers, Engineering Section, National Safety Council, *Holger Jensen*
Beloit Iron Works, *M. W. Dundore*
International Association of Industrial Accident Boards and Commissions, *John P. Meade, H. Schreiber*
National Association of Mutual Casualty Companies
National Bureau of Casualty & Surety Underwriters, *H. W. Heinrich, W. M. Graff (alt.)*
Ohio Manufacturers Association, *Ernest Augustus*
Ontario Pulp and Paper Makers' Safety Association, *D. B. Chant*
The Paper Industry Magazine of Chicago, *Harry E. Weston*
Ticonderoga Machine Works, *G. J. Adams*
U. S. Department of Commerce, National Bureau of Standards, *Dr. M. G. Lloyd, C. G. Weber (alt.)*
U. S. Department of Labor, *H. W. Sullivan*
U. S. Treasury Department, Bureau of the Public Health Service, *Dr. R. R. Sayers*

being buried under an avalanche of chips or from falling through the opening in the bottom and being severely scalded.

The entire Safety Code for Paper and Pulp Mills could be analyzed item for item, but this would be a useless task. The fact is, it contains an immense amount of safety information, based on actual experience. It is for every mill executive, safety man and foreman to know its contents. It is for these men to realize their personal and moral responsibilities to use these coded safeguards intelligently to protect the worker and the community life. Such responsibility accomplished means lower production costs, fewer hospital bills, and a friendlier feeling of the community toward the industry.

The accident rates of the National Safety Council indicate that the paper and pulp industry has made remarkable progress along these lines. During the past ten years the frequency of disabling injuries was reduced 58 per cent in comparison with the reduction of 57 per cent for all industries. In severity, the decrease equals the improvement of 37 per cent for all industries.

Valve and Fittings Society Issues New "Standard Practice"

A new edition of the "Standard Practice" for Specifications for Steam-Bronze Castings for Valves, Flanges, and Pipe Fittings has just been issued by the Manufacturers Standardization Society of the Valve and Fittings Industry.

Revisions in the chemical and physical property requirements and in the temperature ratings recommended by the Society for the two grades of bronze are made in this edition.

The specifications are part of a series of "Standard Practices" for use in connection with valves and fittings prepared and published by the Manufacturers Standardization Society of the Valve and Fittings Industry. Copies may be obtained from the Society, 420 Lexington Avenue, New York.

French Use American Standard In Commercial Mathematics

The French Secretary of Commerce and Industry recently instructed his district inspectors, engineers, and checkers of weights and measures to use the method of rounding off decimal values as laid down in the American Standard Inch-Millimeter Conversion for Industrial Use (B48.1-1933). This method of rounding is interesting particularly in cases where the figure next beyond the last place to be retained is 5, with no figures, or only zeros, following. In such a case, the last figure retained, if even, remains unchanged; if odd, it is increased by 1. Example: 4.365 and 4.355, when cut off to two places, both become 4.36.

The rules in question, which it is expected will be published separately as an American Recommended Practice for general use by engineers and others, have now been approved in several foreign countries. Also they are being considered by the International Standards Association (ISA) as a recommendation for internationally unified practice.

Recommend Screen Analysis System For Naming Standard Sizes of Coal

At a meeting of the Sectional Committee on Classification of Coal held in Pittsburgh on May 18, a method for designating the size of coal from its screen analysis was approved for recommendation as a tentative standard method to the American Society for Testing Materials at its annual meeting in Atlantic City in June.

The A.S.T.M. is sponsor of the sectional committee under the procedure of the American Standards Association.

This method covers the designation of coal sizes using the results of screen analysis tests of samples representing the condition of the coal as sold. According to this method the size designation of a coal is expressed in terms of the lower and upper limiting screens between which more than 80 per cent of the sample is retained by actual test.

A series of testing screens is included in the method. The lower limiting screen is the largest screen in the series through which passes a total of less than 15 per cent of the sample. The screen defining the upper limit is the smallest screen of the series upon which is retained a total of less than 5 per cent of the sample.

The committee also voted a minor revision in the Tentative Specifications for Classification of Coal by Rank (D 388-35 T), the revision involving the substitution of an agglomeration test for the agglutinating value test to determine caking properties. The agglomeration test has the advantage of simplicity since no special apparatus is needed. The agglomerating or caking characteristics of coals are judged by examination of the residue in the platinum crucible incident to the volatile matter determination.

Officers of the sectional committee are: A. C. Fieldner, Chief Engineer, Experiment Stations Division, U. S. Bureau of Mines, Washington, D. C., *chairman;* J. D. Battle, National Coal Assn., Washington, D. C., *secretary*.

Publish Standard Symbols For Use on Drawings

The recently approved American Standard for Graphical Symbols Used in Drawings and Drafting Room Practice (Z14.2-1935) has now been published and is available from the American Standards Association at 45 cents a copy.

The symbols are a compilation from symbols proposed by the American Society of Heating and Ventilating Engineers and the National Association of Master Plumbers of the United States.

In addition, the committee which prepared the standard drew on material from the publications of various organizations.

Drafts of the proposed symbols were circulated widely for criticism and comment and the suggestions received were carefully considered in preparing the final standard. The standard contains 149 symbols for plumbing, piping, pipe fittings and valves, heating and ventilating, heat-power apparatus, conventional rivets, and electric power and wiring.

The standard symbols were completed by Subcommittee 6 of Sectional Committee Z14 on Standards for Drawings and Drafting Room Practice, under the technical direction of the Society for the Promotion of Engineering Education and the American Society of Mechanical Engineers.

Thomas E. French, Professor of Engineering Drawing, Ohio State University, is chairman of this subcommittee. Franklin DeR. Furman, Professor of Engineering Drawing, Stevens Institute of Technology, is chairman of the sectional committee, and Carl W. Keuffel, Keuffel & Esser Company, is secretary.

Gear Manufacturers Association Rejoins ASA as Associate Member

The American Gear Manufacturers Association, which had been one of the most active members of the American Standards Association since 1919 but was forced to resign because of the effect of the depression on the machinery business, has now rejoined the ASA as an Associate Member.

The Association has actively cooperated in the work of many of the sectional committees under the procedure of the American Standards Association.

SAE Honors Maurice Goudard

Maurice Goudard, one of the founders of the Association Francaise de Normalisation, the national standardizing body in France, is visiting this country after an extended stay in Japan.

M. Goudard, president of the Societe des Ingenieurs de l'Automobile, French equivalent of the Society of Automotive Engineers, who has been a member of the SAE since 1925, was honored at a dinner given him by the SAE June 10 at Detroit. Charles F. Kettering, vice-president of the General Motors Corporation, and past-president of the SAE, welcomed M. Goudard on behalf of the Society and the automotive industry.

Committee of Experts Starts Work to Find Danger Limits of Industrial Dusts, Gases

by
Cyril Ainsworth[1]

Assistant Secretary,
American Standards Association

ASA Brings Together Outstanding Authorities to Determine Threshold Limits Beyond Which Toxic Dusts and Gases are Dangerous to Workers

Sectional Committees Will Use Decisions in Exhaust Code Standards

ON May 27th, the National Advisory Committee on Toxic Dusts and Gases held its first meeting in the rooms of the American Standards Association, its deliberations confirming the vigor with which both government and industry are today attacking the problem of occupational disease. While the functions of this committee are purely advisory, the decisions of its members—all eminent toxicologists, pathologists, and industrial engineers—will have a definite bearing upon the whole problem of occupational disease control.

The need for standards in this field is unquestioned. Dr. R. R. Sayers of the U. S. Public Health Service, who heads up the Advisory Committee, has stated that approximately 1,200,000 persons are today engaged in industrial processes that expose them to disease hazards. Claims based on the exposure of industrial workers to a considerable variety of materials that contaminate the workroom air are today costing industry millions of dollars in compensation cases.

Would Protect Workers and Employers

The development of adequate standards in this field will protect employees from unhealthful working conditions. It will protect industrial concerns from racketeering in liability cases. It will provide recommendations to serve as the basis of regulations promulgated by state governmental agencies, and to be rendered by insurance companies to their assured.

While the accurate evaluation of occupational disease claims is a medical one beyond the scope of American Standards Association undertakings, the problem of minimizing the exposures in question is largely an engineering problem of installing exhaust equipment that will keep the air fit for breathing purposes. Some time ago the ASA committee in charge of developing safety codes for exhaust systems undertook this work. It decided to approach the difficult task with which it was faced by developing step by step a set of separate standard specifications for exhaust hood designs and air velocities for each distinct process or industry. Thus each group of specifications, when completed, will constitute a separate standard applicable only to the specified process or industry for which it was developed.

It is through this committee on codes for exhaust systems that the initial recommendation for the establishment of a National Advisory Committee on Toxic Dusts and Gases was received by the American Standards Association. This code committee felt that it would be inadvisable to proceed with the development of specifications covering the design, operation, and maintenance of exhaust systems for use in any particular industrial operation unless authoritative information could be obtained concerning the threshold limits of toxicity of the particular dust or gas which the exhaust system is designed to remove from the atmosphere being breathed by workers. It was

[1]Engineer in charge of Safety Code work under the procedure of the American Standards Association.

Dust Disease Authorities On National Committee

The members of the National Advisory Committee are outstanding authorities on the industrial disease problem. Many have carried on individual research for industry or for the government on dangerous dusts and gases. Never before, however, has a group of such eminent authorities in this field been organized in a unified effort to determine the fundamental principles involved.

The committee is headed by Dr. R. R. Sayers, Senior Surgeon of the U. S. Public Health Service.

Other members of the committee are:

Dr. Cecil K. Drinker, School of Public Health, Harvard University
Philip Drinker, Associate Professor, School of Public Health, Harvard University
Dr. Leroy U. Gardner, The Saranac Laboratory for the Study of Tuberculosis
Dr. Howard W. Haggard, Associate Professor of Applied Physiology, Timothy Dwight College, Yale University
Theodore Hatch, School of Public Health, Harvard University
Dr. Yandell Henderson, Laboratory of Applied Physiology, Yale University
Dr. John Johnston, Director of Research, United States Steel Corporation
Dr. A. J. Lanza, Asst. Medical Director, Metropolitan Life Insurance Co.
Dr. Carey P. McCord, Dodge Main Plant, Chrysler Corporation
Dr. Edgar Mayer, Asst. Professor Clinical Medicine, Cornell University
Dr. Eugene L. Opie, Dept. of Pathology, Cornell University Medical College
F. W. Sehl, Chemical Engr., Aetna Life Insurance Co.
Dr. C. D. Selby, Medical Consultant, General Motors Corporation
Dr. W. F. von Oettingen, Director, Haskell Laboratory of Industrial Toxicology
Dr. B. L. Vosburgh, General Electric Co.
Dr. C. H. Watson, Medical Director, American Telephone and Telegraph Co.
S. E. Whiting, Assistant Chief Engineer, Liberty Mutual Insurance Co.
W. P. Yant, Chief Chemist, Health Division, Bureau of Mines Experiment Station, U. S. Department of the Interior

also recognized that there are various opinions as to what the threshold limits are; and the committee felt that a correlation of these opinions through some central organization would be highly desirable.

It is not contemplated that the Advisory Committee will be called upon to establish threshold limits for all toxic dusts and gases, but it will supply information to the various code committees which are preparing standards covering particular industrial operations such as rock drilling, chromium plating, sand blasting, granite cutting, etc., where the hazards of occupational disease are present. Another function of this committee will be to decide when absence of information makes research and investigation necessary, and to assist in the development of plans for carrying on such research.

Representatives of some 25 national groups have cooperated in planning the program of Industrial Health Codes, and in setting up the National Committee on Toxic Dusts and Gases. While many of the committee members have been engaged in individual research for industry or for government on the problem of occupational disease, never before has a group of such eminent authorities in this field been organized to deliver unified opinions on the many questions involved in the removal of occupational disease hazards.

The American Standards Association is not the only national agency working for the solution of the industrial disease problem. Several months ago Secretary of Labor Perkins held a meeting in Washington which was attended by representa-

Dr. R. R. Sayers

tives of employers, employees, and insurance companies, as well as by medical and safety men. Meanwhile the Air Hygiene Foundation of America, set up by leading companies in the steel, mining, glass, foundry, and kindred industries, has commenced research at the Mellon Institute in Pittsburgh. Arrangements have been made for close cooperation with both of these groups, to obviate the possibility of duplication in research and completed work. V. A. Zimmer, Director of the Division of Labor Standards of the U. S. Department of Labor, speaking of policies of his Division, said recently:

> "A plan has been worked out with the American Standards Association whereby the work of this Division will be largely confined to subjects not yet covered by the American Standards Association. A clearance arrangement with the American Standards Association will assure critical analysis and expert appraisal before promulgation of any codes that are adopted."

The American Standards Association, because of its previous experience in the development of standards having to do with regulatory matters can make a real contribution to both government and industry in this work. Today the 40 completed standard safety codes of the American Standards Association are quoted in whole or in part by 25 of the 34 states which have regulations for the protection of industrial workers.

It is the hope of the Advisory Committee on Toxic Dusts and Gases that national standards for the exhaust systems to be used in connection with numerous industrial processes can be developed with such weight of technical authority back of them that these "American Standards" will be applied directly by industry in removing health hazards and that the technical principles established in them will become the basis of state regulations.

Committee Findings Essential To Protection of Workers

Workers now exposed to industrial disease hazards in many industries may be vitally affected by the work of the new National Advisory Committee on Toxic Dusts and Gases.

Although there is widespread effort to provide some protection for these workers, it is not yet known in some cases exactly what is a dangerous amount of dust or gas or why certain types have certain effects.

Before any real program of protection can be established—before the sectional committees now working on standard specifications for dust-removal equipment can provide satisfactory dust-removal requirements—it is necessary that the threshold limits beyond which dusts and gases are dangerous to health be established.

Research and investigation in fields where no information is at present available will probably be necessary.

Australia Proposes Concrete Pipe Standard

The Standards Association of Australia has issued for public critical review a draft Australian standard specification for concrete pipes of three types:—Class C, cement concrete pipes (unreinforced); Class S, standard reinforced concrete pipes; and Class X, extra strength reinforced concrete pipes.

The specification covers Portland cement reinforcing steel, fine aggregate, coarse aggregate, grading and proportioning, wall thickness and steel qualities, reinforcement, joints, finish, variations, cover, markings, physical tests, including quality and selection of specimens, and load test, hydrostatic test, porosity test, absorption test, inspection, compliance with tests and testing facilities.

Method of Measuring Stocking Size Added in Commercial Standard

An addition to the Commercial Standard for Hosiery Lengths, CS46-33, to include methods of measuring the size of the foot of a stocking, has been recommended, and is now being circulated by the National Bureau of Standards for acceptance. The standing committee of the industry has already approved the proposed addition, and it is now submitted to producers, distributors, and users of hosiery for written acceptance before being published.

The revision includes changing the title of the standard to Hosiery Lengths and Sizes.

Mimeographed copies of the revision, TS 2235, may be obtained from the Division of Trade Standards, National Bureau of Standards, Washington, D. C.

Mark Pipes with American Standard Colors, Recommends New York Real Estate Board

Pipes in New York office, loft, or apartment buildings will be identified through the use of colors suggested in the American Recommended Practice for Identification of Piping Systems, if the recommendations of the New York Real Estate Board are followed. The recommendations were made through the Board's Operating Forum Committee, according to *Real Estate Record*, May 16.

"In view of the adoption of a standard by the American Standards Association," says the *Record*, in reporting the recommendation, "it is desirable that any color schemes for the identification of piping in office, loft, or apartment buildings conform to the basic principles laid down."

The standard system of colors, set up as a safety measure for quick and certain identification of the functions of the various systems of pipes used in large buildings, is explained by the *Real Estate Record* as follows:

The American Standards Association in November, 1928, approved as a recommended practice, a scheme for the identification of piping systems. It is a systematic plan employing color and other kinds of markings based on fundamental principles.

The committee appointed by the American Standards Association included representatives of the government, paint manufacturers, technical societies, architects, manufacturers, and public utilities, so that the committee's recommendation can be accepted as authoritative although it did not include direct representatives of building owners or managers.

Protects Policemen and Firemen

The purpose in painting pipes with various colors to identify the material carried in them is to facilitate the task of the building employees or any other persons who may have occasion to open or close valves.

The advantage of having piping identified in this manner is of importance in emergencies, particularly when it becomes necessary for outsiders, possibly policemen or firemen, due to the incapacity or absence of the regular building employees, either to open or close a valve on a pipe line to protect life or property.

It is suggested that the scheme recommended be adopted by all buildings having either a large amount of piping or piping arranged in such manner that individual pipes are hard to follow.

The object of this scheme is to provide building owners and managers with a practical color guide which they can use to identify the various pipes in their buildings.

It is also the object to formulate a scheme based on the recommended American practice as it is very desirable that office, loft, and apartment buildings follow the same basic principles which are used by industrial plants.

The materials carried in pipes in buildings are recognized as being of four general classes and a color (or color range) is assigned to each as follows:

Class	*Colors*
Fire protection	Red
Dangerous	Orange and yellow
Safe products	Green (or white, black, gray or aluminum)
Protective materials	Blue

The American Society of Mechanical Engineers and the National Safety Council directed the work of the Sectional Committee on Identification of Piping Systems.

Copies of the standard (A13-1928) may be obtained from the ASA office at 50 cents each, with 20 per cent discount to ASA Members.

A.S.T.M. Preprints Committee Reports

Preprints of the committee reports and technical papers which will be presented at the Annual Meeting of the American Society for Testing Materials at Atlantic City, June 29-July 3, are now available from the Society. A request blank listing the preprints will be sent by the Society on request.

One of the outstanding events of the meeting will be the Eleventh Edgar Marburg Lecture, on Developing American Glass, to be delivered by Dr. Arthur L. Day, director, Geophysical Laboratory, Carnegie Institution of Washington. The lecture will follow through a number of important developments of recent years from their early beginnings, and will discuss in detail not only the application of modern glasses, but also the mechanical development of processing machinery.

The 49 technical committee reports cover standards developments on metals, cement and concrete, lime, ceramics, masonry materials, and miscellaneous subjects including petroleum products and lubricants, classification of coals, textile materials, water for industrial uses, and gaseous fuels, among others.

American Societies Help Safety Work in India

STANDARDIZATION and safety code work are difficult problems in a country with no national standardizing organization, says A. S. Trollip, Honorary Joint General Secretary of the Safety First Association of India. Especially in India, where methods of work are often primitive and ideas of personal safety are rudimentary, the process of working out and applying standardization methods is a complicated one.

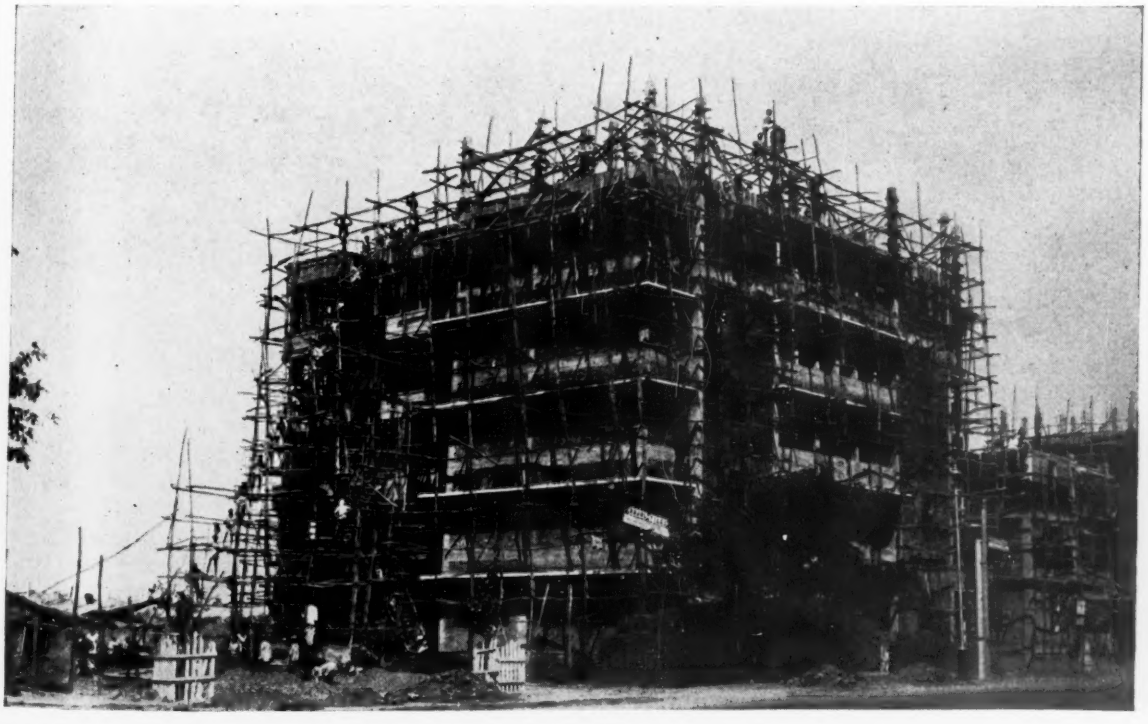
The work already done in Great Britain and in the United States is watched carefully and the methods are applied as closely as possible. The National Safety Council, American insurance companies, and the work of the American Standards Association have been particularly helpful, Mr. Trollip says.

All engineering practice in India is governed by the standards issued by the British Engineering Standards Association. Whenever the B.E.S.A. has new standards under preparation, or is making revisions it sends copies of the proposed standards to the Institution of Engineers in Calcutta. The Institution then sends out the draft standards to those industries throughout India primarily interested. Each industry calls a meeting of the individuals concerned, who make suggestions for changes or additions. These suggestions are sent to London, and some of them may be incorporated in the final draft of the standard.

Industrial safety is controlled by the requirements of the Factories Act, which covers health and safety, restrictions on working hours, etc. The government enforces penalties for failure to comply with the Act.

The Safety First Association of India is a volunteer organization which cooperates with the government in making definite proposals for safety regulations. Outstanding among the safety codes completed by the Association are a highway code and a code for elevators. The elevator code has been accepted by the Federation of Chambers of Commerce of India and proposed to the gov-

Crude scaffold construction such as this is the rule in India



ernment for adoption. It is now being considered by the Provincial Government of Bombay.

The picture shown on this page is typical of some of the primitive methods used in India, which help to complicate the work of the Safety First Association and to make its accomplishments particularly constructive.

Foreign Standards For Sale by ASA

Use serial number when ordering any of the foreign standards listed below. Address a postal card or letter, with name of person to receive the pamphlets, to:

American Standards Association,
29 West 39th Street,
New York.

Standards are printed in language of the country under which they are listed.

Great Britain

832. Cast-iron spigot and socket soil, waste, ventilating, and heavy rainwater pipes
833. Tungsten filament electric lamps (other than general service lamps)
834. Lead pipes for other than chemical purposes
835. Lead pipes (B.N.F. ternary alloy no. 2)
836. Graduated measuring cylinders
837. Crow receivers
838. Plaited sash lines
839. Reinforced concrete poles for electrical transmission and traction supports
840. Varnished cambric insulated annealed copper conductors for electricity supply including voltage tests
841. Multitubular horizontal boilers (dryback and waste heat)
842. The rating of rivers for power purposes
843. Petri dishes
844. Nessler cylinders
894. Cyanides suitable for electroplating
895. Wire ropes of special construction for engineering purposes, inclusive of cranes, lifts, and excavators
896. Grinding wheels (dimensions and methods of attachment)
897. Laboratory incubator, water bath, and oven thermometers
898. Emulsions of road tar and of road tar-asphaltic bitumen mixtures for penetration (grouting and semi-grouting) and surface dressing
899. Components for radio-interference suppressing devices (excluding devices for traction equipment)

Sweden

845. Length of threads on wrought-iron pipes
846. Whitworth taper threads
847. Socket pipes for gas and water (10 sheets)
848. Malleable iron pipe fittings (47 sheets)
849. Technical stipulations for delivery of cast-iron pipes for gas and water
901. Size of drawings
902. Tolerances on ball journal bearings (2 sheets)
903. Tolerances on thrust ball bearings
904. Indication of surface finishes
905. List of surface finishes
906. Malleable iron fittings (3 sheets)
907. Cylindrical shaft ends
908. Long tapered shaft ends
909. Short tapered shaft ends

Holland

850. Abbreviations for titles of periodicals
851. Arrangement of bibliographical data at bottom of title page of periodical
852. Sizes for paper and index cards
853. Nomenclature of organic chemical compounds
854. Street and highway traffic signs, signals, and markings (8 sheets)
855. Cast-iron triangular traffic signal boards
856. Cast-iron round and square traffic signal boards
857. Pressed traffic signal boards
858. Pressed sheet steel round and square traffic signal boards
859. Technical drawings showing positions of numbers and other indications
860. Instructions for folding and attaching technical drawings
861. Technical drawings for reinforced concrete construction; general instructions
862. Technical drawings for reinforced concrete construction; ground planes on scale 1:5
863. Technical drawings for reinforced concrete construction; beams
864. Symbols for screw threads and bolts on technical drawings
865. Symbols for gears on technical drawings
866. Testing concrete pipes
867. Steel washers for bolts and screws with Whitworth threads
868. Bolts and nuts with hexagon and square heads and Whitworth threads
869. Square and hexagon nuts with Whitworth thread
870. Dimensions and composition of copper wire and stranded copper wire
871. Dimensions and testing requirements for hard-drawn electrolytic copper wire
872. Testing requirements for white pastes for paints (zincwhite, white lead, lithopone)
873. Testing requirements for colored pastes for paints
874. Testing requirements for black pastes for paints
875. Definitions and testing requirements for brick for masonry work
876. Methods of test for brick for masonry work
877. Hospital textiles; dimensions and purpose of bedding
878. Hospital textiles; dimensions and purpose of household table goods
879. Rivets with flat countersunk heads for boiler construction
880. Rivets with standard lengths of shank (3 sheets)
881. Standard length of shank for countersunk rivets for ship building
882. Weights of rivets
883. Files and letter cases
884. Envelope for paper sizes according to the A series
885. Envelopes for paper sizes according to the B and C series
886. Ruling of unprinted writing paper
887. Glass milk bottles with 42 mm diameter caps
888. Glass milk bottles with 34 mm diameter caps
889. Glass milk bottles with aluminum caps
890. Glass milk bottles with wire caps
891. Glass milk bottles with crown cork caps
892. Glass wine bottles
893. Glass bottles for lemonade, mineral water, and beer with crown cork caps and wire caps.

Ruth O'Brien Heads A.S.T.M. Work On Household Textile Standards

Broad A.S.T.M. Program on Textile Standards Is Opened to Work on Consumer Standards

Home Economists Cooperate with Technicians in Development of Specifications

Ruth O'Brien, director, U. S. Bureau of Home Economics, has been appointed chairman of the newly created subcommittee on household and garment fabrics of the American Society for Testing Materials' Textile Committee, D-13.

"Now that this opportunity is offered to technically trained consumers to express their point of view and work with this professionally trained group on methods of testing and specifications for consumers' goods, it is expected that many home economists will ally themselves with the A.S.T.M. and participate in the program of this subcommittee," says an editorial in the *Journal of Home Economics*, June.

Home Economists Cooperate

"For some years a small group of American Home Economics Association members who are working in textile research have maintained membership in the A.S.T.M. and have participated in the work of Committee D-13, although this has dealt chiefly with industrial fabrics not of direct interest to consumers," the editorial continued. "These contacts with textile technologists from manufacturing and distributing agencies have been very helpful professionally and have developed a deep respect on the part of home economists for the technical information and scientific accuracy which goes into the making of that Society's test methods and standards. They have also raised the hope that eventually this influential organization would focus some of the intellectual resources of its membership on the problems of standards for consumers' goods."

The *Journal* quotes Professor Herbert J. Ball, chairman of Committee D-13, who outlines the aims of the new subcommittee and its relation to the already existing work of the general committee. Professor Ball says:

"The American Society for Testing Materials is a national society of 3,600 members devoted to the promotion of a knowledge of materials of engineering, their methods of test, and the preparation of standard specifications for them. This is done through the activity of its 60 standing committees, each of which has under its jurisdiction the materials in a definitely prescribed field. Committee D-13 is the one which has charge of all work relating to textiles. It now numbers 165 members and is the second largest in the Society.

"The Committee is organized into subcommittees which deal with every textile fiber and their products, with definitions and nomenclature, methods, machines, humidity, finishing processes, sampling, presentation and interpretation of data. It has been chiefly instrumental in developing most of the test methods for textiles which are in use today and has formulated 37 separate standards relating to them.

"The Committee now proposes to add a new Subcommittee on Household and Garment Fabrics whose chief interest will lie in those materials which enter so largely into the construction of ultimate consumer goods. Although it will not deal with the ultimate consumer article itself, it would be concerned with the setting up of definitions, methods of test, and quality standards for the fabric from which such articles are made. Its membership would be composed of producer, consumer, and general interests. Its accomplishments should rest on the firm foundation of scientific tests and data. Through cooperation with the other subcommittees and using a procedure tested by long experience, results may be expected which are practically attainable and mutually satisfactory to those concerned.

Committee Has Technical Background

"The present members of D-13 can supply a vast amount of technical knowledge regarding the production of textiles. The laboratories of its members provide a great variety of testing equipment of both standard and special types. Sources of supply of materials are generously open to the Committee for its work. The Committee has the benefit of its long experience with work of this character; its reputation is widely known and

well established; and it benefits from the universal prestige which the A.S.T.M. enjoys.

With this valuable background the success of this new venture will be assured if it is adequately supported by those who are most familiar with the requirements of consumer fabrics. This will mean the active participation through membership on this new Subcommittee of those interested in the objectives outlined. I am desirous of calling this opportunity to the attention of a group which I understand is vitally interested in these problems and which should be instrumental in assisting in their solution."

Karl Gramenz

From Berlin, Germany, the American Standards Association has received the sad news that Karl Gramenz, until recently chief engineer on the staff of the Deutscher Normenausschuss, has passed away.

Mr. Gramenz was widely known in Germany and abroad as one of the leading experts on problems of fits between cylindrical parts. For about ten years he conducted the work of the German body in its capacity as the secretariat of the technical committee on Fits of the International Standards Association (ISA). The proposal of an internationally uniform system, now practically completed, owes much to Mr. Gramenz's unusual knowledge of the subject and his masterly way of handling the coordinating work.

His great mental gifts were combined with a rarely cooperative disposition and a friendly, modest character.

While Mr. Gramenz has not seen his work completed, his name will remain indelibly attached to the development of the ISA system. In this and in what he has done in earlier years in connection with the development of a German national standard system of fits, he has created his own memorial.

The American Standards Association extends its deep sympathy to Mr. Gramenz's relatives, and to the Deutscher Normenausschuss with which Mr. Gramenz was associated for many years.—*John Gaillard.*

Germany Eliminates Measures Of Weight Not Based on Grams

A change in the standard schedule of weights in Germany, which affects the marking of packaged goods and makes the meter the sole official unit of length, was ordered to take effect April 1, 1936, according to a news item in a recent issue of *Food Industries Weekly*, London.

The order eliminates the "Pfund," formerly used as a measure of weight on packaged tea and other packaged goods, and provides that in the future the weight of all such goods must be marked in grams or kilograms. The "Pfund" was equivalent to 450 grams.

A period of grace is allowed after April 1 for the sale of all goods already packaged and marked with the Pfund weight.

Prunes, Not Up to Standard, Diverted to Byproducts

A plan to divert substandard prunes to approved byproduct manufacturing processes is being applied on the Coast.

It is sponsored by the Pacific Prune Products Association, a private group without the cooperation of growers. The prunes are bought in the open market, with money borrowed from the federal government.

The prices paid must be more than those offered by packers and shippers, who might include substandard prunes in better-grade lots, or flood the market with inferior products.

The prunes will be used in byproduct plants for stockfeed and commercial alcohol, and in products for human consumption such as prune-butter, juice, powder, and jams. Pitted prunes sold to bakers bring the highest prices.

The 1935 prune surplus was 10,000 tons, all of which the new association will sell to manufacturers.—*Business Week, May 2.*

Industry Accepts Revised Asphalt Simplified Practice Recommendation

The current revision of Simplified Practice Recommendation R4, Asphalt, has been given the required degree of acceptance by the industry and becomes effective June 15, according to an announcement by the Division of Simplified Practice, National Bureau of Standards.

The revision covers certain changes in the penetration limits to meet current needs and changes in construction practice.

The recommendation covers penetration limits of asphalt for sheet asphalt, asphaltic concrete, construction of asphalt macadam pavement, and for surface treatment; also for joint filler, and for the preparation of joint filler for various types of construction.

Until ready in printed form, complimentary copies of this Simplified Practice Recommendation, in mimeographed form, may be obtained from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

Argentine Gets American Standards; ASA Cooperates with Commerce Body

EVERY exporter to the Argentine will benefit by the joint action of the American Standards Association and the American Chamber of Commerce at Buenos Aires in presenting a full set of the 344 approved American Standards to the Institute Argentine de Racionalizacion de Materials—the national standardizing body of the Argentine.

Not only will these standards be available to foreign buyers but American sales outposts will also have at hand, as an aid to entering foreign markets, the consensus of opinion of American industry, science, and government on matters of standardization.

Will Translate 50 Standards

As an additional step to make American standards more valuable to South American industry, a list of 50 standards is now being compiled for translation into Spanish and Portuguese. Alexander V. Dye, Director of the Bureau of Foreign and Domestic Commerce, who is in charge of this work, has asked the American Standards Association to help in preparing such a list. ASA Member-Bodies are now being consulted as to which standards should be considered for translation.

Because of their distance from point of manufacture the value of standardization is more apparent to the Latin Americas than to ourselves. Replacement of worn or broken parts of machinery, maximum use of the smallest possible stock, length of time for shipments, and assurance of proper fits and alignment are all of vital concern.

The U. S. Bureau of Foreign and Domestic Commerce contributed toward the development of foreign trade in the South American countries about 10 years ago through the translation of some 25 standards into Spanish and Portuguese. These were largely concerned with materials and electrical engineering and had been published by the American Society for Testing Materials and the American Institute of Electrical Engineers. Copies were purchased by American exporting firms and distributed by the official body, the Pan-American Union.

In further development of industrial relations, a Pan-American Conference on Standardization was called some years ago in Peru and A. W. Whitney, then chairman of the Standards Council of the ASA, attended as official representative of the U. S. Government.

Because of the depression, the whole movement fell into neglect during the last few years, and the presentation of the complete set of American Standards to the Argentine standards association by the ASA and the American Chamber of Commerce is a first step toward informing our Latin markets of the advanced work now being done here.

Other standardization activities in which the ASA is active have had an effect on foreign industrial activities.

The complication due to the use of the metric system in foreign countries has been cleared to a great degree by the international adoption of the standard conversion ratio 25.4 laid down in the American Standard Inch-Millimeter Conversion for Industrial Use (B48.1-1933).

Several important recommendations for international unification of national standards have been made by the International Standards Association, in which the American Standards Association represents the American interests. The recent decision of the British Standards Institution to follow the American practice on 16-mm sound film, instead of the German, resulted from a conference organized under ISA procedure, and shows the value of this international cooperation to American manufacturers.

Revise Commercial Standard for Interchangeable Joints, Stoppers

A revision of the Commercial Standard for Interchangeable Ground-Glass Joints, Stopcocks, and Stoppers, CS21-36, has been accepted by the industry under the procedure of the National Bureau of Standards.

The revision consists of the addition of certain sizes and lengths which have been made necessary by the increasing use of these interchangeable joints, stopcocks, and stoppers.

Mimeographed copies of the standard may be obtained from the Division of Trade Standards, National Bureau of Standards, Washington, D. C.

Standards Council Authorizes New Building Code Projects

The first of the new projects under the ASA's building code program were approved by the Standards Council at its meeting on May 15. These will cover fire protection and fire resistance, chimneys and heating appliances, light and ventilation, and fire extinguishing equipment.

For the first of these, fire protection and fire resistance, the National Board of Fire Underwriters, the National Bureau of Standards, and the National Fire Protection Association have been assigned the technical leadership. It will provide minimum requirements for types of construction, restrictions as to location in fire zones and on property, restrictions as to height and area, fire-resistive characteristics of building materials and assemblies, and the protection required for structural members such as floors, partitions, openings, ceilings, etc.

The National Board of Fire Underwriters will act as sponsor for the Building Code Requirements for Chimneys and Heating Appliances. A special committee is being appointed to study the scope of this project in connection with other projects or standards of the same type under the procedure of the American Standards Association.

The scope of the project on Building Code Requirements for Light and Ventilation has also been referred to the special committee for consideration in connection with other ASA projects on related subjects. The U. S. Treasury Department-Public Health Service, and the Federal Housing Administration have been named to take the responsibility for the work of this committee.

The requirements for fire extinguishing equipment, which will be prepared by a committee under the direction of the National Fire Protection Association, will cover requirements for design, installation, and maintenance of sprinklers, standpipes, or other fire-extinguishing equipment.

Other projects which have been suggested by the Building Code Correlating Committee but which have not yet been recommended to the Standards Council for approval would provide requirements for excavations and foundations, iron and steel, masonry, re-enforced concrete, and working stresses.

Oregon Inspector Calls Building Code Work Good for Industry

I believe that the organization of a Building Code Committee in connection with the work of the American Standards Association would be a very beneficial activity and the work of this committee should result in great good to the building industry. There is no doubt that there should be, as far as possible, a standardization of building regulalations.—*H. E. Plummer, Inspector of Buildings, City of Portland, Oregon.*

A.S.T.M. Changes Designations For Values of Water Absorption

Values of water absorption as designations for the various classes of structural clay tile will no longer be used by the American Society for Testing Materials' Committee on Hollow Masonry Building Units, the A.S.T.M. announces. This decision was made at a recent meeting of the committee, when it was decided to use designations more useful to the builder.

For load-bearing tile, the committee decided to designate the class formerly known as 5-16 as LBS and that formerly 16-25, as LB.

The Tentative Specifications for Structural Clay Load-Bearing Wall Tile (C 34-35 T) will be revised, according to the committee's plans, by deleting the requirements for minimum weights for tile and substituting requirements for the thicknesses of the shells and webs. Specifications C 56-35 T for non-load-bearing tile and C 57-35 T for floor tile will be revised by changing the class designations without changing the technical requirements to any extent.

The committee also considered methods of preparing specimens for compressive tests. It was decided that the methods of capping bonding tile with irregular bearing surfaces should be revised. Although the data available are not adequate to serve as a basis for preparation of methods of test which will correct all the faults of the present method, there are definite indications that the revisions recommended will result in obtaining values for strength more indicative of the service value of the products.

The committee voted to recommend to the Society the adoption as standard of these tentative specifications and also the Tentative Specifications and Tests for Load-Bearing Concrete Masonry Units (C 90-34 T).

Flood Effect Minimized

Standards Help Pittsburgh Company Return to Normal Quickly, Efficiently

EFFECTS of the big flood in Pittsburgh this spring were minimized to some extent, at least, for one company because standardization had been applied in the general storeroom, says A. E. Hatton, Superintendent of Materials, West Penn Power Company.

Standardization aided in restoring the company to normal activity with the least expenditure of time, energy, materials, and money in the following ways, Mr. Hatton points out:

1. Because of the practice of standardization and simplification over a period of years our superintendents, engineers, and foremen were able to recognize quickly and accurately the damage incurred and the necessary material required to make replacements.

2. Since unnecessary diversity in the kinds and quality of material had been eliminated, our General Storeroom was well stocked with a supply of material of the right kind and quality.

3. Standardization and simplification made it possible for an interchange of materials and supplies between divisions within and without the flooded areas.

4. Due to the studies that have been made in our efforts to standardize material which have resulted in the use of standard terminology in describing material on our system, written and telephone orders were handled rapidly and accurately.

5. There were no delays because of the necessity for ordering material of a special nature from the manufacturer.

6. Prompt deliveries from the manufacturer were the rule during the restorative period at regular prices since each manufacturer had been working with our engineers over a period of years and most of them had stock available subject to our demand.

7. Standardization and simplification further made it possible to transfer men and their operating equipment from unaffected areas to the affected areas without loss of personnel efficiency or impairing their ability to formulate rapid and sound judgments.

S.A.E. 1936 Handbook Includes Standards

The 1936 edition of the *S.A.E. Handbook*, which includes all of the current standards and recommended practices adopted by the Society of Automotive Engineers, is just off the press.

The standards cover a variety of subjects of interest to the automotive industry, ranging from viscosity numbers for lubricants, vehicle operating cost classifications, inch-millimeter conversions, to standards for tools and production equipment, screw threads, bolts and nuts, and parts and fittings. The new and revised specifications issued during 1935 are published in this edition of the *Handbook*.

In addition to the standards, the book lists the officers of the Society, the personnel of its committees, and gives the report of the chairman of the S.A.E. Standards Committee.

It also lists the 38 sectional committees of the American Standards Association on which the S.A.E. is represented, and the names of the S.A.E. representatives.

"Cooperative work is carried on by the Society with other Societies and Associations, Governmental Departments and Bureaus and technical committees of other national bodies," the S.A.E. points out in the foreword to the *Handbook*. "The Society is a sponsor for and is represented on sectional committees under the procedure of the American Standards Association, of which it is a member. The Society is also engaged in international standardization projects by representation through the American Standards Association which is a member of the International Standards Association."

Copies of the 1936 edition of the *S.A.E. Handbook* are available from the Society of Automotive Engineers, 29 West 39th Street, New York, at $5.00 each.

Specifications are standardized by the Society to promote interchangeability, eliminate variety, facilitate production, operation, and servicing, promote safety, advance uniformity in testing, and to establish nomenclature.—*S.A.E. Handbook.*

Sweden's Standards Give Women Modern Kitchens

by

Mathilde C. Hader

New York University

HOW standards can be applied to every detail of kitchen equipment and design is graphically illustrated in a book just received by the American Standards Association from Sweden.

Koket, Forslag till Systematisering (The Kitchen, Plans for Standardization) prepared by the Committee for Standardization of Building Materials and published by Spektrum Forlagsaktiebolag Arkitektur och Samhalle, Stockholm, shows to what extent modern technology is being applied in the kitchens of civilized countries throughout the world. An American woman, used to a modern kitchen, would feel at home in the workrooms illustrated in these pages.

As a matter of fact, an American woman might well be fascinated by the extent to which standardization is here shown applied to her daily work. Designs for cutlery, pots and pans, shelf space, sinks, refrigerators, even standard designs for different types of kitchens, are shown in detail. Diagrams illustrating how the standard designs affect the number of steps and motions a woman must make in doing her kitchen work show how carefully the standards were worked out and studied before being recommended.

The committee which assembled the information shown in this book was appointed in 1919 by the Swedish Industrial League and the Swedish Technological Association. Model kitchens planned by the committee have been exhibited on several occasions during the past few years, and the experiences resulting from the exhibits have been used in compiling the book. Excellent illustrations make the standards suggested clear even to those who know nothing of the Swedish language.

The plans and designs shown indicate the high standard of living in Sweden, more on a par with that of the United States than of other European countries.

Koket, which was published in 1934, although just now received here, has already exercised a far-reaching influence on homebuilding in the Scandinavian countries. During the last few years much building has been going on there, and old traditions in design are being swept away. Kitchens are being modeled closely on the designs suggested in the standards book, and definitely approach American standards for modern kitchens and kitchen equipment.

Revise Simplified Practice Recommendation On Classification of Iron and Steel Scrap

The current revision of Simplified Practice Recommendation R58-28, Classification of Iron and Steel Scrap, covering additions and eliminations to meet current needs, has been given the required degree of acceptance by the industry. It becomes effective June 15, 1936, according to an announcement by the Division of Simplified Practice, National Bureau of Standards.

The revised recommendation will be identified as Simplified Practice Recommendation R58-36, and will remain in effect until again revised by the industry. Until it is ready in printed form, complimentary copies of this recommendation, in mimeographed form, may be obtained from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

Suggest Revision on Abrasive Grain Sizes

The standing committee in charge of Simplified Practice Recommendation R118-30, Abrasive Grain Sizes, has submitted a revision of the recommendation, and the Division of Simplified Practice of the National Bureau of Standards has mailed copies to all interests for consideration and approval. The revision does not change the recommended sizes, but clarifies the headings and the example which is given to explain the use of the recommendation.

Copies of the proposed revision, in mimeographed form, may be obtained from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

Standards Are Factor in Reducing Machine Hazards

SAFETY engineers will note with interest that the largest number of industrial accidents thirty-two years ago was caused by running machinery, and it was recommended then that guards be used for set screws, gears, shaft ends, and the like. "Dangerous places should be fenced off so that only those who know the danger shall approach them," and in many cases this form of protection was recommended as superior to guarding the running parts.

In the list of 4,000 industrial accidents, one-quarter were due to attempting to clean machinery while in motion. A large proportion of all the accidents came from shifting belts. The recommendation was made for the need of personal care and supervision which was recognized at that time as more important as an accident prevention measure than safeguarding the running parts.

Experience since that time has demonstrated that everything possible should be done to remove or guard against hazards. In addition, careful and experienced safety supervision of employees is a necessary measure for establishing a low accident record.

Today, the great advancement which has been made in bringing about conditions of greater safety in physical surroundings and equipment, the application of safety standards, rules, and the valuable knowledge which only years of experience can furnish—this has not reduced the need for intensive accident prevention, education, and supervision. Innumerable new hazards have been created due to the changes which are taking place constantly in manufacturing processes, methods, materials and equipment.

Accident prevention is a never-ending contest against the birth of new hazards which are a part of economic and improved industrial production, but which present new problems for the safety engineer whose eternal search is for the prevention of accidents against all hazards as they arise. *Safety Engineering, December, 1935.*

The American Standards Association safety code program has been an outstanding factor in making possible the reduction of industrial hazards. Cooperation of management, labor, insurance agencies, government departments, and manufacturers of machinery and equipment has made possible the development and approval by the American Standards Association of 40 safety codes which are widely used by industry and by state regulatory bodies for inspection purposes.

$3,750,000 LOSS—
Six Dead—Four Injured

When Grain Dust Exploded in One of the World's Largest Elevators

Dust Explosions Can Be Prevented

Ten Safety Codes, prepared under the direction of the National Fire Protection Association and the United States Department of Agriculture, give detailed engineering requirements for control of dust and prevention of explosions

Installation of Pulverized-Fuel Systems (Z12a-1935)
Installation of Pulverizing Systems for Sugar and Cocoa (Z12b-1931)
Prevention of Dust Explosions in Starch Factories (Z12.2-1935)
Prevention of Dust Explosions in Flour and Feed Mills (Z12.3-1935)
Prevention of Dust Explosions in Terminal Grain Elevators (Z12.4-1935)
Prevention of Dust Explosions in Coal Pneumatic Cleaning Plants (Z12f-1930)
Prevention of Dust Explosions in Wood-Flour Manufacturing Establishments (Z12g-1931)
Prevention of Dust Ignitions in Spice Grinding Plants (Z12h-1931)
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